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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------------------------------------------------------------------------------------|-------------|------------------------|---------------------|------------------|
| 10/681,931 | 10/09/2003 | Arthur Richard Metcalf | MIC-46 (P50-0118) | 7750 |
| 34043 | 7590 | 02/01/2006 | EXAMINER | |
| DORITY & MANNING, PA & MICHELIN NORTH AMERICA, INC P O BOX 1449 GREENVILLE, SC 29602-1449 | | | KNABLE, GEOFFREY L | |
| | | | ART UNIT | PAPER NUMBER |

1733

DATE MAILED: 02/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/681,931

Applicant(s)

METCALF ET AL.

Examiner

Geoffrey L. Knable

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10-9-03; 10-14-04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 2, 6, 11, 14, 15, 19 and 24 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kulka et al. (US 6,087,930) or Lee, Jr. et al. (US 5,731,754).

Kulka et al. discloses embedding a power source in the form of a battery (14) within a cured rubber (7), this being then suitable for mounting on a tire - note esp. figs. 1-2 and col. 4, lines 53+. Lee, Jr. et al. provide a similar disclosure. These references

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do not however expressly describe that the power source is initially embedded within an "uncured" rubber which is then cured - it however is considered to be reasonable to read this reference to encapsulating within cured rubber as implicitly describing that the rubber is initially uncured when the battery is embedded followed by curing - otherwise, it would be very difficult to effectively encapsulate the battery and other parts of the device. In any event, even if it were not deemed implicit in this disclosure, it would have been obvious to the ordinary artisan to effect the encapsulation using an uncured rubber which is subsequently cured in order to effectively provide the desired encapsulation. The method of claims 1, 2, 14 and 15 is thus considered implicit or obvious from this disclosure. As to claims 6, 11, 19 and 24, an antenna (36) is also embedded within the rubber, this also being conductive.

5. Claims 3 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kulka et al. (US 6,087,930) or Lee, Jr. et al. (US 5,731,754) as applied above, and further in view of Rensel et al. (US 6,474,380).

As to claims 3 and 16, Kulka et al. and Lee, Jr. et al. suggest that any suitable battery can be used as the power source but do not expressly describe a pair of batteries. Rensel et al. is also directed to powered monitoring devices to be attached to a tire and in particular evidences that a pair of batteries are suitable and effective to power such devices (col. 4, lines 22-23). To utilize a pair of batteries in a device configured as in Kulka et al. or Lee, Jr. et al. would therefore have been obvious and lead to only the expected results.

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6. Claims 4, 5, 7-10, 12, 13, 17, 18, 20-23, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kulka et al. (US 6,087,930) or Lee, Jr. et al. (US 5,731,754) as applied above, and further in view of Adamson et al. (US 2004/0159383).


In light of Adamson et al. (e.g. note paragraph [0026]), which is also directed to electronic devices for tires that are embedded in rubber, it is known in this art to be desirable and necessary to provide an effective bond between the embedded element (e.g. antenna) and the surrounding rubber, this being accomplished through use of an adhesive layer on the element prior to embedding in the rubber. To provide an adhesive coating layer on the various elements to be embedded in Kulka et al. or Lee, Jr. et al. would therefore have been obvious to ensure an adequate bond. To provide this adhesive coating to also be non-conductive would likewise have been obvious in view of for example paragraph [0019] in Adamson et al. as well as the well known desire to avoid short circuiting a battery. Further, providing an antenna in undulating form as well as use of fatigue resistant metals are well known in this art to enable the antenna to accommodate forces during manufacture and use - note for example paragraph [0020] of Adamson et al.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Geoffrey L. Knable
Primary Examiner
Art Unit 1733

G. Knable
January 30, 2006